

EXHIBIT A – CLAIM 1 OF THE '677 Patent

<p>1. A method of managing a mobility management layer in a mobile device, comprising:</p>	<p>To the extent the preamble is limiting, Volkswagen's cars include telematics modules that practice this limitation. For example, the telematics modules and related communications technology in the car implement the following standards which practice the claimed invention:</p> <p>[1] TS 24.008 3GPP TSG Core Network and Terminals; Mobile radio interface layer 3 specification; Core network protocols (Release 11), v 11.3.0 (2012-06)</p> <p>In particular, for example, the procedures set forth in TS 24.008 3GPP TSG Core Network and Terminals; Mobile radio interface layer 3 specification; Core network protocols (Release 11), v 11.3.0 (2012-06), provide for managing a mobility management layer.</p> <p>4.1.2 MM sublayer state</p> <p>11.2.1 Timer T3240 and Timer T3241</p>
<p>when receiving a paging message from a network, the mobility management layer entering a waiting state to establish a radio resource connection without establishing any mobility management connection;</p>	<p>This limitation is present in the Accused Products. For example, TS 24.008 3GPP TSG Core Network and Terminals; Mobile radio interface layer 3 specification; Core network protocols (Release 11), v 11.3.0 (2012-06) describes how the standard provides for receiving a paging message from a network and the mobility management later entering a waiting state to establish a radio resource connection without establishing a mobility management connection:</p> <p>TS 24.008 3GPP TSG Core Network and Terminals; Mobile radio interface layer 3 specification; Core network protocols (Release 11), v 11.3.0 (2012-06)</p> <p>11.2.1 Timer T3240 and Timer T3241</p> <p>Timer T3240 is started in the mobile station when:</p> <ul style="list-style-type: none"> - the mobile station receives a LOCATION UPDATING ACCEPT message completing a location updating procedure in the cases specified in subclauses 4.4.4.6 and 4.4.4.8; - the mobile station receives a LOCATION UPDATING REJECT message in the cases specified in subclause 4.4.4.7; - the mobile station has sent a CM SERVICE ABORT message as specified in subclause 4.5.1.7; - the mobile station has released or aborted all MM connections in the cases specified in 4.3.2.5, 4.3.5.2, 4.5.1.1, and 4.5.3.1; - the mobile station receives the paging message from network and enter the MM state 9 (WAIT FOR NETWORK COMMAND). <p>...</p> <p>4.1.2.1.1 Main States</p> <p>...</p> <p>9 WAIT FOR NETWORK COMMAND</p>

	<p>The MM sublayer has a RR connection to its peer entity in the network, but no MM connection is established. The mobile station is passive, awaiting further commands from the network. The timer T3240 may be running.</p> <p>...</p>
<p>activating a timer of the mobile device after the mobility management layer enters the waiting state;</p>	<p>This limitation is present in the Accused Products. For example, TS 24.008 3GPP TSG Core Network and Terminals; Mobile radio interface layer 3 specification; Core network protocols (Release 11), v 11.3.0 (2012-06) describes how the standard provides for activating a timer after the mobility management layer enters the waiting state:</p> <p>TS 24.008 3GPP TSG Core Network and Terminals; Mobile radio interface layer 3 specification; Core network protocols (Release 11), v 11.3.0 (2012-06)</p> <p>11.2.1 Timer T3240 and Timer T3241</p> <p>Timer T3240 is started in the mobile station when:</p> <ul style="list-style-type: none"> - the mobile station receives a LOCATION UPDATING ACCEPT message completing a location updating procedure in the cases specified in subclauses 4.4.4.6 and 4.4.4.8; - the mobile station receives a LOCATION UPDATING REJECT message in the cases specified in subclause 4.4.4.7; - the mobile station has sent a CM SERVICE ABORT message as specified in subclause 4.5.1.7; - the mobile station has released or aborted all MM connections in the cases specified in 4.3.2.5, 4.3.5.2, 4.5.1.1, and 4.5.3.1; - the mobile station receives the paging message from network and enter the MM state 9 (WAIT FOR NETWORK COMMAND). <p>...</p>
<p>the mobility management layer exiting the waiting state according to a command received from the network before the timer expires</p> <p>or</p> <p>the mobility management layer exiting the waiting state after the timer expires;</p>	<p>This limitation is present in the Accused Products. For example, TS 24.008 3GPP TSG Core Network and Terminals; Mobile radio interface layer 3 specification; Core network protocols (Release 11), v 11.3.0 (2012-06) describes how the standard provides for the mobility management layer exiting the waiting state according to a command received from the network before the timer expires or the mobility management layer exiting the waiting state after the time expires:</p> <p>TS 24.008 3GPP TSG Core Network and Terminals; Mobile radio interface layer 3 specification; Core network protocols (Release 11), v 11.3.0 (2012-06)</p> <p>4.4.4.8 Release of RR connection after location updating</p> <p>...</p>

	<p>Any release of the RR connection shall be initiated by the network according to subclause 3.5 in 3GPP TS 44.018 [84], and 3GPP TS 25.331 [23c]. If the RR connection is not released within a given time controlled by the timer T3240, the mobile station shall abort the RR connection. In both cases, either after a RR connection release triggered from the network side or after a RR connection abort requested by the MS-side, the MS shall return to state MM IDLE.</p> <p>...</p> <p>4.5.1.3 MM connection establishment initiated by the network</p> <p>4.5.1.3.1 Mobile Terminal CM Activity</p> <p>...</p> <p>If the MS receives the first CM message in the MM states WAIT FOR NETWORK COMMAND or RR CONNECTION RELEASE NOT ALLOWED, the MS shall stop and reset the timers T3240 and T3241 and shall enter the MM state MM CONNECTION ACTIVE.</p> <p>...</p>
determining whether the command associated with exiting the waiting state is received from the network if the timer does not expire; and	<p>This limitation is present in the Accused Products. For example, TS 24.008 3GPP TSG Core Network and Terminals; Mobile radio interface layer 3 specification; Core network protocols (Release 11), v 11.3.0 (2012-06) describes how the standard provides for determining whether the command associated with exiting the waiting state is received from the network if the timer does not expire:</p> <p>TS 24.008 3GPP TSG Core Network and Terminals; Mobile radio interface layer 3 specification; Core network protocols (Release 11), v 11.3.0 (2012-06)</p> <p>11.2.1 Timer T3240 and Timer T3241</p> <p>...</p> <p>Timer T3240 is stopped and reset (but not started) at receipt of a CM message that initiates establishment of an CM connection (an appropriate SETUP, REGISTER, or CP-DATA message as defined in 3GPP TS 24.008, 3GPP TS 24.010 [21] or 3GPP TS 24.011 [22]).</p> <p>...</p>
the mobility management layer exiting the waiting state and performing a specific action corresponding to the command when receiving the command,	<p>This limitation is present in the Accused Products. For example, TS 24.008 3GPP TSG Core Network and Terminals; Mobile radio interface layer 3 specification; Core network protocols (Release 11), v 11.3.0 (2012-06) describes how the standard provides for the mobility management layer exiting the waiting state and performing an action corresponding to the command:</p> <p>TS 24.008 3GPP TSG Core Network and Terminals; Mobile radio interface layer 3 specification; Core network protocols (Release 11), v 11.3.0 (2012-06)</p> <p>4.1.2.1.1 Main states</p>

<p>wherein the specific action includes</p> <p>an "RR (radio resource) connection release" action,</p> <p>an "indicate MM (mobility management) connection" action,</p> <p>an "MS (mobile station) deactivated and attach allowed" action, or</p> <p>an "RR connection release not allow" action.</p>	<p>...</p> <p>6 MM CONNECTION ACTIVE</p> <p>The MM sublayer has a RR connection to its peer entity on the network side. One or more MM connections are active.</p> <p>7 IMSI DETACH INITIATED</p> <p>The IMSI detach procedure has been started. The timer T3220 is running.</p> <p>...</p> <p>19. MM IDLE</p> <p>There is no MM procedure running and no RR connection exists except that a local MM context may exist when the RR sublayer is in Group Receive mode. This is a compound state, and the actual behaviour of the mobile station to Connection Management requests is determined by the actual substate as described hereafter.</p> <p>...</p> <p>25. RR CONNECTION RELEASE NOT ALLOWED</p> <p>(Only applicable for mobile stations supporting RRLP procedures (see 3GPP TS 44.031 [23b]) or LCS procedures over RRC (see 3GPP TS 25.331 [23c])). All MM connections are released by their CM entities, but the RR connection is maintained by the network due to an ongoing RRLP procedure or LCS procedure over RRC.</p>
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